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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/743,738	01/16/2001	Hans Nusskern	39129-183650	7535
26694	7590	10/23/2003	EXAMINER	
VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998			GARCIA, ERNESTO	
			ART UNIT	PAPER NUMBER
			3679	

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/743,738

Applicant(s)

NUSSKERN ET AL.

Examiner

Ernesto Garcia

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-62 is/are pending in the application.
- 4a) Of the above claim(s) 37-52, 54, 56, 57 and 59-61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-36, 53, 55, 58 and 62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 06 August 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

The indicated allowability of claim 35 now claim 31 is withdrawn in view of the newly discovered reference(s) to Renz et al., 5,197,720. Rejections based on the newly cited reference(s) follow.

Election/Restrictions

Claims 37-52, 54, 56, 57 and 59-61 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7. Applicant is reminded that claims 55 and 57 do not read on elected Fig. 25. In claim 54, the clamping sleeve does not have a circular cross section in the relaxed state (depicted as 10'r in Fig. 22) but rather having an oval cross section. In claim 56, the examiner rechecked the states of each of the connecting elements in the figures as remedied by the corrected figures recently filed. The examiner has found Figure 25 not having a cross section being arced on three sides. Claim 56 is directed to Figure 32 instead. In claim 57, the two constructive elements 2, 3 are not parallel to each other but instead the elements 2, 3 are coaxial to each other.

Art Unit: 3679

The examiner apologizes for not catching this error as a result of understanding the complex invention.

Claim 58 has been reinstated as the another constructive element is a second constructive element 3 as shown Figure 25. Furthermore, claim 62 is also reinstated as the constructive element is the first constructive element 2 inserted in the clamping sleeve as shown in Fig. 25.

Claim Objections

Claim 31 is objected to because of the following informalities:

regarding claim 31, the limitation --to be-- should be inserted before "inserted" in line 11 as the constructive element is not positively inserted but to be inserted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 55 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 55, it is unclear whether the relaxed state is a deformed state or different states. An element in a relaxed state is not deformed as no load has been applied. Therefore, how can the relaxed state be a deformed state as compared to the relaxed state in the pre-tensioned state? As best understood by the examiner, a pre-tensioned state does not make the connecting element relaxed since a load is still applied in the pre-tensioned state.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 31, 32, 34, 36, 53, 58 and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by Renz et al., 5,197,720.

Regarding claim 31, Renz et al. disclose in Figure 4 a connecting element comprising an elastically deformable tensioning element 7 having a length in an axial direction. The tensioning element 7 further comprises a spring material consisting of a superelastic shape memory alloy (col. 5, line 46-54) and the tensioning element 7 is in a

Art Unit: 3679

stress-induced martensitic state. Applicant is reminded that the element **7** radially expands by a force applied by conical threads **11**.

Applicant is reminded that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Therefore, the tensioning element **7** is adapted to apply a holding force in an elastically expanded state onto a constructive element **10** that is to be connected thus generating a frictional connection of the constructive element with the tensioning element or another constructive element. Furthermore, applicant is reminded that the memory alloy is elastically expandable in the tensioning element and the constructive element is to be inserted in the axial direction of the tensioning element.

Regarding claim 32, the shape memory alloy is a nickel-titanium alloy (col. 4, line 51-53).

Regarding claim 34, applicant is reminded that bending forces or shear forces during an elastic expansion of the tensioning element **7** generates the holding force.

Regarding claim 36, applicant is reminded that the method of how the holding force is generated does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d

1647 (1987). Therefore, the holding force is a contact pressure generated by elastic expansion of the tensioning element, and the holding force is applied to the connected constructive element is inserted into the tensioning element.

Regarding claim 53, the clamping sleeve 7 comprises a clamping sleeve, into which the constructive element to be connected is inserted in the axial direction. The clamping sleeve is partially relaxed. Applicant is reminded that functional "whereby" statement does not define any structure and accordingly cannot serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

Regarding claim 58, applicant is reminded that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). Applicant is reminded that the structure of the clamping element has not being further limited but rather the constructive elements which are to be used with the connecting element has being limited.

Regarding claim 62, Renz et al. show a connecting element in combination with the constructive element 10 inserted in the tensioning element 7. A section 11 of the at least one constructive element 10 is engaged with the tensioning element 7 is friction increased.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Renz et al., in view of the Publication entitled "Ti-Ni Shape Memory Alloys" by Duering et al..

Regarding claim 33, Renz et al., as discussed above, fail to disclose a titanium content of the nickel-titanium alloy is between about 49.7 to 50.7 at.%. Duering et al., teaches on page 1036 that Ti-Ni having a titanium content of 49.7 to 50.7 at.% are commercially available. Therefore, it would have been obvious matter of design choice to select an Ti-Ni alloy with a titanium content of 49.7 to 50.7 at.% as part of material choice.

Allowable Subject Matter

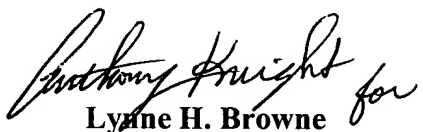
Claim 55 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

regarding claim 55, the prior art of record does not disclose or suggest a connecting element comprising an elastically deformable tensioning element being in a stress-induced martensitic state having an oval cross section in the pre-tensioned state; Julien, 6,530,564, teaches an element in Figure 22; however, the element is a supporting structure or element instead of a connecting element.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 703-308-8606. The examiner can normally be reached from 8:30-5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on 703-308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.


Lynne H. Browne
Supervisory Patent Examiner
Technology Center 3600

E.G.
October 17, 2003

Anthony Knight
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